

ECTOPARASITES

Clinic presentation by Danielle Draper

SCABIES: Scabies is caused by the mite *Sarcoptes scabiei*. The mites mate on the skin surface and then the female mite burrows under the skin where she lays her eggs for 4-6 weeks. Eggs hatch after three to four days and then the new mites cut through the burrow to the skin surface to multiply.

- **Common Hosts:** children, those in overcrowded living situations, with poor hygiene, poor nutritional status, homelessness, dementia, and sexual contact.
- **Exam:** Pruritic, erythematous papular rash +/- burrows that is worse at night. Most commonly found on trunk, abdomen, axilla, hands and feet or in the finger webs (burrows especially), but spare the face and neck. Lesions can also be vesicular, pustular or crusted.
- **Diagnosis:**
 - Skin Scrapings: apply a drop of mineral oil to nonexcoriated burrows, papules, or vesicles then scrape laterally across the lesion - transfer the oil and skin scraping to a slide. A positive test result reveals mites, eggs, or fecal pellets.
 - Empiric treatment may be initiated if scabies lesions are visible at more than 2 anatomic locations.
- **Treatment:**
 - **Pharmacological: Permethrin 5% cream**
 - Apply cream to all areas of the body from the neck down, kept on overnight or for eight to 14 hours, wash off, and **reapply in one week**.
 - Family members/house mates need to initiate treatment on the same day.
 - Patients may have itching for up to two weeks, even after appropriate and effective treatment.
 - **Crusted scabies** –may use ivermectin at 200 mcg per kg orally on days 1, 2, 8, 9, and 15, plus permethrin 5% cream full-body application daily for seven days, then twice weekly until demonstrated cure.
 - **Non pharmacological:**
 - Wash sheets and clothing at 140°F (60°C) and dry in a hot dryer.
 - Isolate non-washable items in a plastic bag for at least 72 hours.

LICE/PEDICULOSIS: Lice are blood sucking, obligate parasites that infest head, body and pubic regions. Adult female lice lay up to 300 eggs at the skin hair junction, eggs are yellow to white and found at the base of the hair. Lice grow to adult form in 20 days and live for 1-3 months. Nits are louse egg shells, thus suggest a historical infestation and may last for weeks after infestation.

- **Exam:** Pruritic scalp as a hypersensitivity reaction which may develop 2-6 weeks after initial infestation
- **Diagnosis:** Need at least 1 live louse for diagnosis, nits alone don't cut it. Hint – look behind the ears and at the back of the neck.
- **Treatment:**
 - Pharmacological = **permethrin 5% cream/shampoo** – effectively coats the lice, thus suffocating the lice. Think of considering other options in areas where resistance is known or in patients with prior history of treatment failure.
 - 2nd line: Malathione v. ivermectin
 - New therapies: hyperexcitation agent, spinosad 0.9%, which provokes death by paralysis - approved in 2011. Found to have ~ 2 x eradication rate of permethrin at 14 days after a single treatment and without nit combing.
 - Non-Pharmacological:
 - **Wet combing:** place commercial conditioner, then hair is combed from root to tip with a fine lice comb every 3 days for 2 weeks.
 - **Cetaphil Gentle Skin Cleanser:** one study found eradication rate of 95% when cetaphil was used as a dry-on, suffocation-based pediculicide lotion. Lotion was applied to the scalp thoroughly, left to dry for 2 min, then hair was fully dried and combed out with a lice comb. Then people were instructed to wait a minimum of eight hours before shampooing with regular shampoo.

SOURCES:

Gunning et al. Scabies and Pediculosis, A Treatment Update. *Am Fam Physician*. 2012 Sep 15;86(6):535-541
UptoDate – Scabies and Lice